

INTELLOFAX 14

INFORMATION REPORT

CD NO.

COUNTRY USSR (Ukrainian SSR)

DATE DISTR 28 February 1952

SUBJECT Karl Liebknecht Steel and Rolling Mill
at Dnepropetrovsk

NO OF PAGES 2

PLACE
ACQUIRED

NO. OF ENCLS. 2
(LISTED BELOW)

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SUPPLEMENT TO
REPORT NO.

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1. The Karl Liebknecht steel plant and rolling mill in Dnepropetrovsk (48°27'N/31°59'E) is located on the eastern bank of the Dnieper River in the obtuse angle which is formed by the highway and the railroad line. * When the plant was reoccupied by the Soviets it was badly damaged. Reconstruction was started in the wheel factory and in the steel plant. The tube-rolling mill was reconstructed in the summer of 1948. The reconstruction of the wire-drawing shop was started at about the same time. Several sources stated that the plant facilities were being expanded as well as reconstructed. All new constructions were located in the northeastern area of the plant. Two sources stated that, among other projects, the erection of blast furnaces was planned. **
2. The plant occupied an area of about 2 or 2½ by 1 km. The installations of the plant included an open-hearth plant, a wheel factory, a tube-rolling mill, a wire-drawing shop, and numerous secondary and auxiliary plants, such as a foundry, two forges, a mechanical repair shop, a railroad repair shop, a nail and screw factory (Metiz - Metallicheskiye Izdeliye - Metal goods) and electric power plants.
3. The open-hearth department consisted of five parallel bays. The two northern bays housed the six open-hearth furnaces and the room for preparing the charges for the furnace. The molten steel was tapped into ladles from which it was poured into the molds. The molds were located in the middle bay, which was the highest, and were arranged in groups of five on a car. Ingots for the wheel factory were cast in polygonal molds while those for the tube-rolling mill were cast in cylindrical molds. The ingots were removed from the molds, testing samples were taken, and the ingots were conveyed to the wheel factory and the tube-rolling mill. The production of the entire plant was dependent on the output of the open-hearth department. A summary of the information from all sources indicated that the production of this department amounted to about 1,500 tons per day or 450,000 tons per year. Waste metal, amounting to 400 tons per day, was returned to the open-hearth department from the other sections of the plant to be used as scrap. One source stated that it was planned to increase the steel capacity of the plant by installing six additional open-hearth furnaces.
4. The wheel factory produced spokeless wheels for cars and locomotive wheels having oblong perforations in the wheel discs instead of spokes. The polygonal ingots were cut into discs about 20 cm thick, given their approximate

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☐ Unclassified

Class. Changed To: TS

Auth: RR 10-2

Date: 1-1 SEP 1978

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shape in three pressing processes, and then the perforations were punched. The wheel rims were not fitted on in the plant. Estimates as to the number of wheels produced vary considerably. Four sources reported a production of 800 wheels per day. It was estimated that this factory consumed about 250 tons of steel per day, of which about 35 percent was waste. This wheel factory is the largest of its kind in the U.S.S.R.

5. The Mannesmann tube-rolling mill produced tubes to be used by the mineral industry as drilling pipes and pipelines. The tubes were from 8 to 30 meters long and 25 to 30 cm in inside diameter. They were fitted with threads and sleeves in the plant. Production figures were given by only two sources who stated that a tube, 16 to 18 meters long, was finished every 4 to 6 minutes. It was estimated that the daily requirement of raw steel for this plant would be 1,000 tons of which about 25 percent would be waste.
6. The wire-drawing shop was still in ruins at the time of observation. Reconstruction work was underway but the mill was not yet in operation. Items manufactured in the new forge shop included hooks, chains and motor vehicle components for plant requirements. Two sources stated that 80-mm AA gun barrels were manufactured in the mechanical repair shop. The nail and screw factory produced nails of various sizes, screws, screw bolts, bolts and barbed wire. Large quantities of ammunition of 70-mm to 80-mm caliber were stored near this factory. ***
7. Power for the plant was obtained through a high-tension line from the main power plant of Zaporozha (47°49'N/35°11'E). This line led to the main transformer station where the current was stepped down to 6,000 Volts and was then distributed to substations where it was transformed to the operating voltage required. This power was also used to supply the town of Dnepropetrovsk. There were also several plant-owned power plants.
8. The plant employed 2,000 workers per shift during the fall of 1948. One source believed that these workers were assigned to the various sections as follows: Open-hearth plant 250, wheel factory 150, tube-rolling plant 170, mechanical repair shop 150, forge 100, plant railroad 100, other small sections 300, outdoor work 550, offices and laboratories 180. No details were known on the personnel of such installations as the wire-drawing shop, the nail and screw factory and the railroad repair shop. Work was done in three shifts of eight hours each. Thus the total number of employees was about 6,000.
9. There was a wooden fence, 2 meters high, around the south and west sides of the plant and a barbed wire fence on the other two sides. The plant was guarded by sentries.

* Comment. For location and layout sketches of the plant, see Annexes 1 and 2. These sketches are based on aerial photographs and statements by source.

** Comment. Although it is not impossible that the construction of new blast furnaces was planned, it appears more likely that a second steel plant was to be erected.

*** Comment. It is believed the nail and screw factory is no longer a part of the Karl Liebknecht Plant, although they work in close cooperation.

2 Annexes: Two sketches on ditto.

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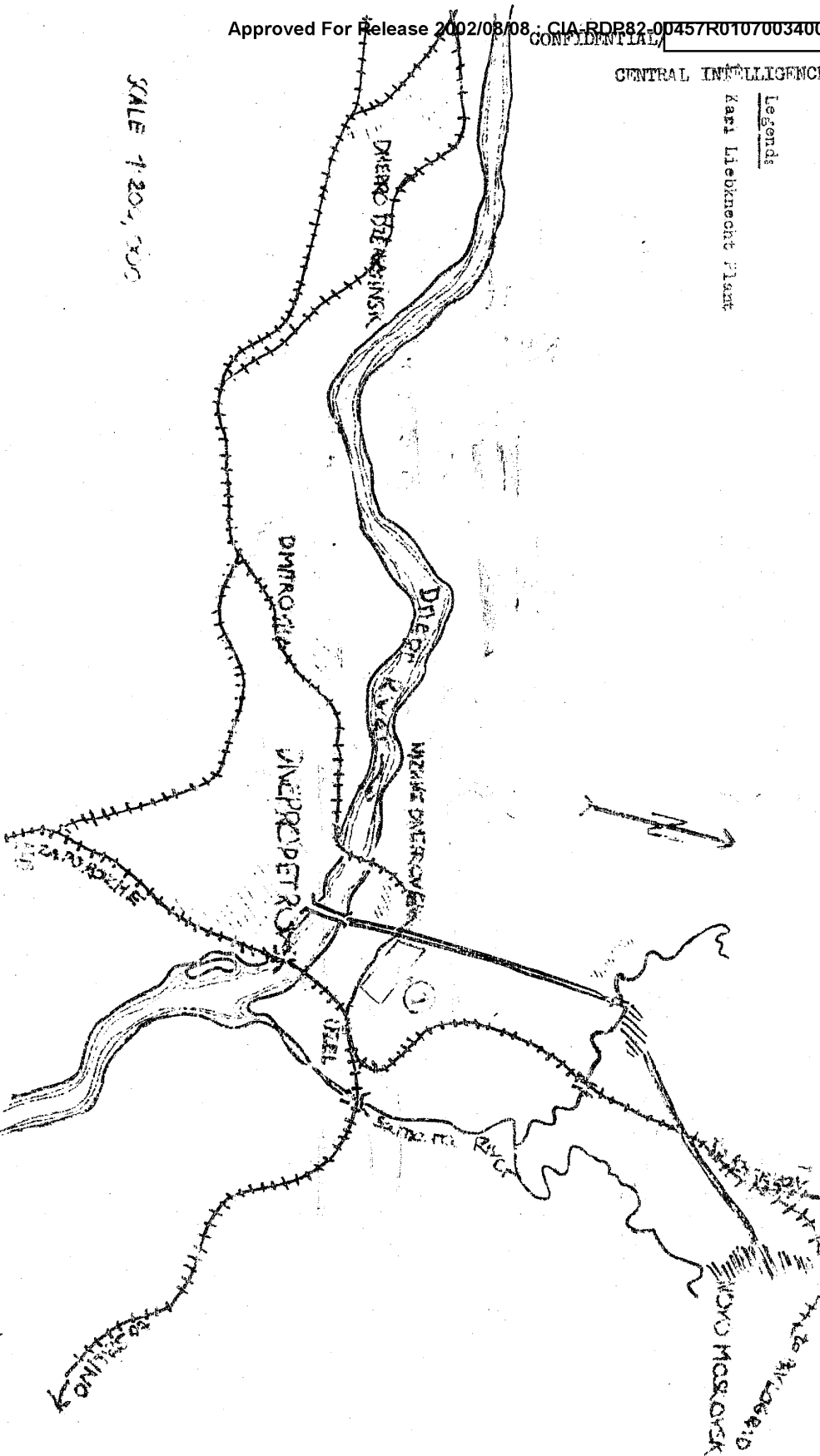
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Annex 1

Legends
Karl Liebknecht Plant

Location of Karl Liebknecht Plant in Dnepropetrovsk



SCALE 1:20,000

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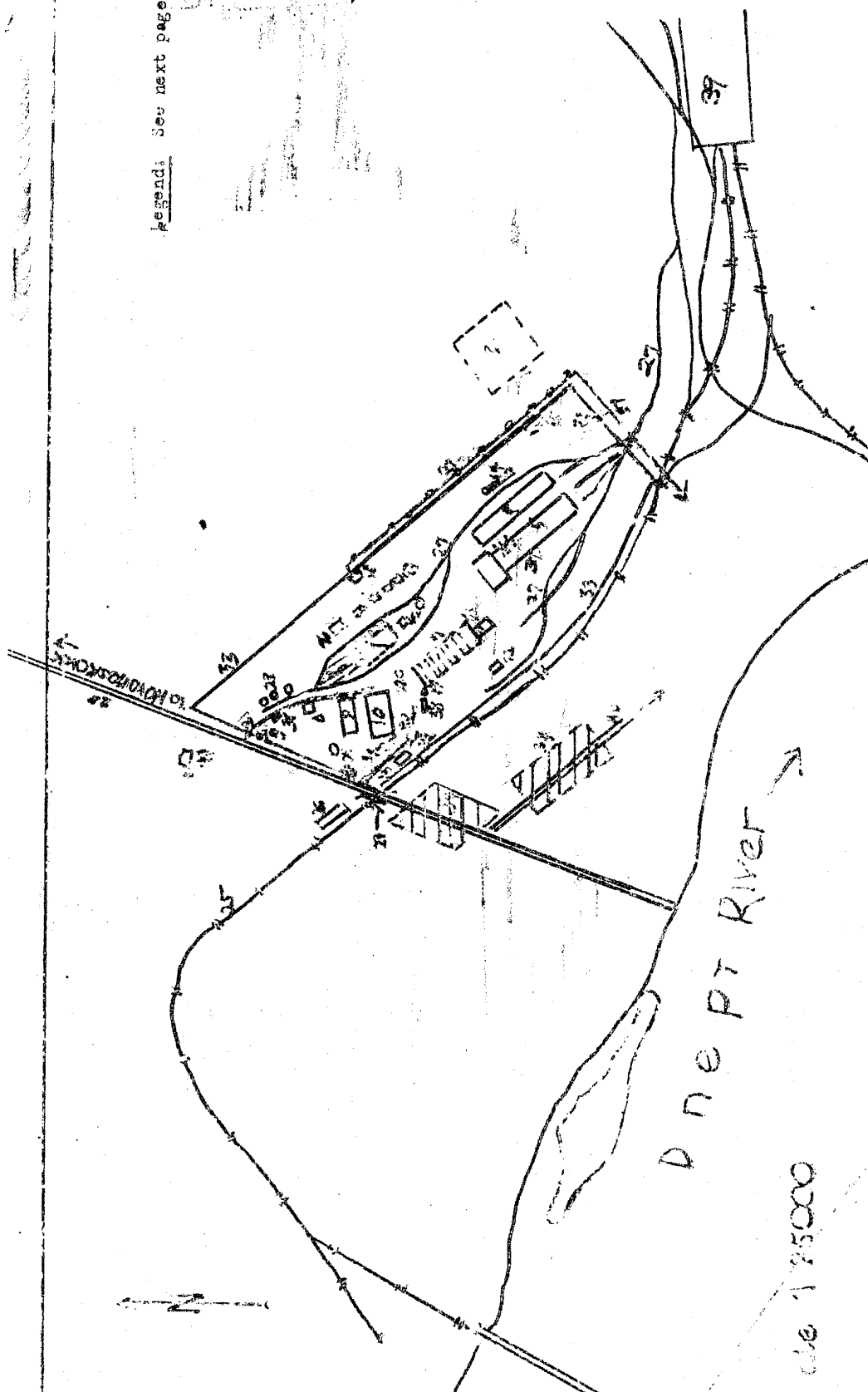
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GENERAL INFORMATION

Annex 2

Legend: See next page.

Karl Liebknecht Plant in Dnepropetrovsk



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Annex 2/2

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Legend to Annex 2:

1. Open-hearth department, 200 x 125 meters, equipped with six open-hearth furnaces, five of which were of a stationary type with a capacity of about 100 tons and the sixth was a tilting type with a capacity of about 140 tons. All the furnaces were mazut-fired.
2. Site for proposed expansion of the open-hearth department. This location was reported by only one source.
3. Area for new construction, reported by several source to be a new blast furnace plant and a coking plant.
4. Wheel factory, about 500 x 100 meters, equipped with annealing furnaces, shears, pressing and punching machines, hardening furnaces, baths for oil hardening, and cooling basins.
5. The Mannesmann tube-rolling mill consisted of three longitudinal bays, each 500 x 125 meters, and four transverse bays, each 150 x 100 meters. The factory was equipped with annealing furnaces, cross rolling mills with mandrels, plate shears and straightening machines.
6. Electric power plant located near the Mannesmann tube-rolling mill. Four sources said this was a pulverized-coal or oil-fired power plant with a large turbine. The smokestack of the plant was said to be 50 meters high.
7. Wire-drawing shop, 325 x 125 meters.
8. Foundry 50 x 30 meters. One source stated that the foundry was equipped with several small cupolas. Two other sources reported that the foundry was equipped with a small open-hearth furnace. The foundry also contained a molding shop where castings of various shapes were produced for plant requirements.
9. New forge shop, 200 x 70 meters, equipped with five forges and five heavy hammers.
10. Mechanical repair shop, 250 x 100 meters, equipped with machine tools of all kinds. Two sources reported that there were 40 to 50 machine tools in this shop while another source stated there were 150 machine tools. One source mentioned the existence of a separate lathe shop equipped with 20 extra-large lathes up to 10 meters long.
11. Old forge shop, 25 x 5 meters, equipped with three forges and three or four hammers. This shop was used for plant requirements.
12. Railroad repair shop which repaired locomotives and cars. This was a comparatively large plant on which no details were known.
13. Nail and screw factory, 200 x 60 meters, the equipment of which included 10 die presses.
14. Coal-fired power plant and boiler house with two smokestacks, 100 x 40 meters, equipped with a coal-crushing plant from which the coal was transferred to the boiler house over a sloping conveyor system.
15. Cooling-water station with pump.
16. Oil-fired power plant with two smokestacks. Three sources reported that this plant was under construction.
17. Five cooling towers.
18. Main transformer station, housed in a three-story building, 150 x 30 meters.

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19. Ruins of the old transformer station. It was stated that this station was not to be reconstructed.
20. Transformer substations.
21. High-tension line, entered in the sketch on the basis of information furnished by one source who was employed in the plant as an electrician.
22. Cables leading from the high-tension line.
23. Tank depot for mazut fuel. This tank was half underground and had a subterranean pipe line to the open-hearth department.
24. Water tower, 35 meters high.
25. Multi-track railroad line to Kharkov (50°00'N/36°15'E).
26. Wzhnedneprovsk railroad station.
27. Plant sidings.
28. Highway to Kharkov.
29. Bridge over railroad tracks.
30. Main roads within the plant.
31. Main entrance gate for vehicles.
32. Main entrance gate for pedestrians.
33. Wooden fence and barbed-wire fence.
34. Settlements.
35. Garage.
36. Guard room with vehicle scales.
37. Scrap dumps.
38. Main administration building.
39. Marshaling yard (Verschiebebahnhof) Usel.
40. Road to PW Camp 7315/6.

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